

ABSTRACT

A method is described for rapid and economical activation and/or preconditioning of gas purification substrates by providing forced convection of the preconditioning or activating gas through the pores of the substrate. The gas is pumped into the substrate-containing vessel and raised to an elevated pressure, which is maintained for a short predetermined time, followed by venting of contents of the vessel. The vessel is again pressurized with the purging gas to an elevated level, and the elevated pressure is maintained for a short predetermined time, followed by venting of the vessel. This cycle is repeated as often as needed or desired. Activation and/or preconditioning can be accomplished in a much shorter time and with much less gas usage compared to diffusion preconditioning and activation processes. This process is particularly suited for preconditioning and activation of gas purifier substrates for decontamination of gases down to ≤ 1 ppm contaminants.